INSTALLATION & OPERATION MANUAL

GR SERIES GAS FRYERS

MODELS

GR35	ML-126989
GR45	ML-126990
GR65	ML-126991
GR85	ML-126992
GR35F	ML-126998
GR45F	ML-126999
GR65F	ML-135534
GR85F	ML-135535



For additional information on Vulcan-Hart Company or to locate an authorized parts and service provider in your area, visit our website at www.vulcanhart.com

VULCAN-HART COMPANY, P.O. BOX 696, LOUISVILLE, KY 40201-0696, TEL. (502) 778-2791

FORM 31233 Rev. A (Apr. 2003)

IMPORTANT FOR YOUR SAFETY

THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL GAS EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.

POST IN A PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION CAN BE OBTAINED FROM THE LOCAL GAS SUPPLIER.

IMPORTANT

IN THE EVENT A GAS ODOR IS DETECTED, SHUT DOWN UNITS AT MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

WARNING

IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

IN THE EVENT OF A POWER FAILURE, DO NOT ATTEMPT TO OPERATE THIS DEVICE.

TABLE OF CONTENTS

INSTALLATION, OPERATION AND CARE OF GR SERIES GAS FRYERS

PLEASE KEEP THIS MANUAL FOR FUTURE USE

GENERAL

Vulcan GR Series Gas Fryers are produced with quality workmanship and material. Proper installation, usage and maintenance of your fryer will result in many years of satisfactory performance.

It is suggested that you thoroughly read this entire manual and carefully follow all of the instructions provided.

NOTE: For units equipped with KleenScreen, refer to the KleenScreen Interplumbed Filtration System User's Guide and the supplemental KleenScreen instructions supplied with the fryer battery.

SPECIFICATIONS

Model	No. Tubes	BTU/Hr	Total MJ	Width	Lbs. of Fry Compound
35	3	90,000	95.00	15 1/2" (39 cm)	35-40 (16-18 kg)
45	4	120,000	126.60	15 1/2" (39 cm)	45-50 (20-23 kg)
65	5	150,000	158.25	21" (53 cm)	65-75 (29-34 kg)
85	5	150,000	158.25	21" (53 cm)	85-95 (39-43 kg)

OPTIONS AND FEATURES (Filter Ready Fryers)

- Stainless Steel Tank (Standard)
- Tri-, Twin- or Single-Basket (Twin Standard)
- Manual Pilot (Standard)
- Filter-Ready (Stand-alone fryers for use with MF50 and MF85 mobile filters only) (Standard)

OPTIONS AND FEATURES (Non-Filter Ready Fryers)

- Stainless Steel Tank (Standard)
- Tri-, Twin- or Single-Basket (Twin Standard)
- Manual Pilot (Standard)

BATTERY CONFIGURATIONS (For Non-Filter Ready Models Only)

- Batteries can be configured with any non-filter ready GR Series Fryer or Frymate Dump Station; only one Frymate Dump Station per battery (Fig. 1).
- All GR Series Fryers can be free-standing or arranged in batteries of 2 to 4 units.
- The number preceding the model number of your GR Series Fryer refers to the number of units in a battery.

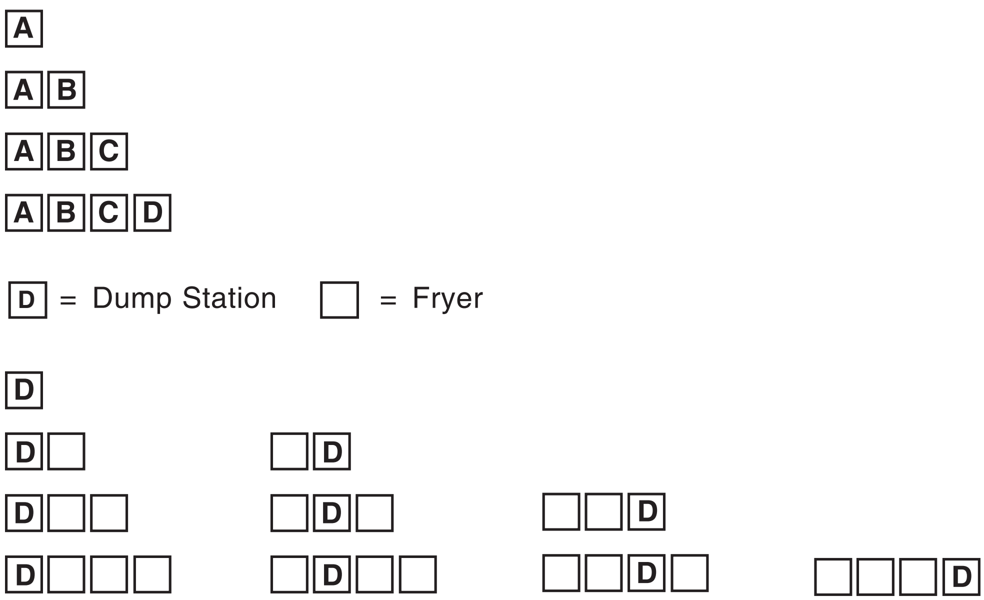


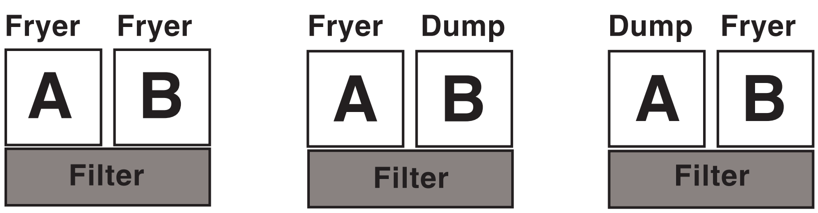
Fig. 1

OPTIONS AND FEATURES (KleenScreen)

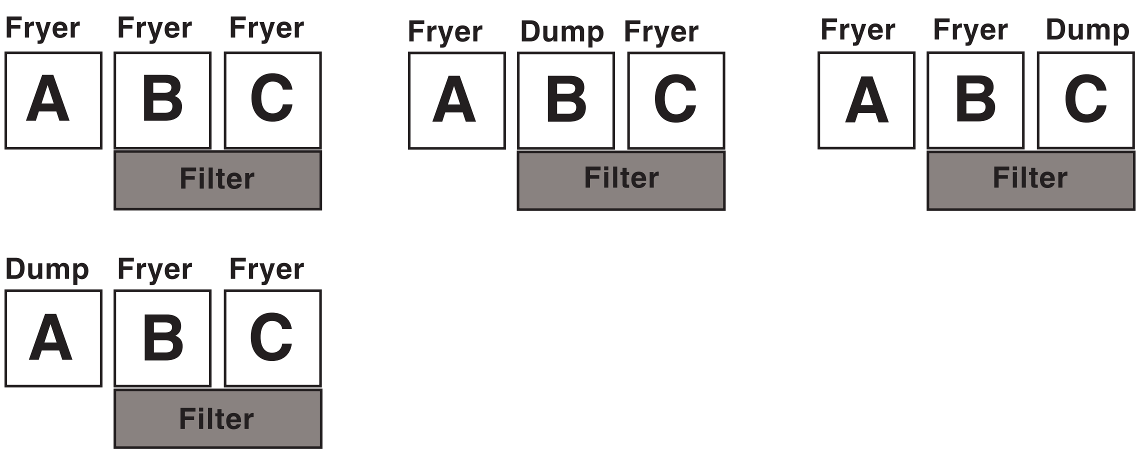
- Stainless Steel Tank (Standard)
- Tri-, Twin- or Single-Basket (Twin Standard)
- Manual Pilot (Standard)
- KleenScreen Interplumbed Filtration System (F Models Only)

BATTERY CONFIGURATIONS (For KleenScreen Interplumbed Filtration System Models Only)

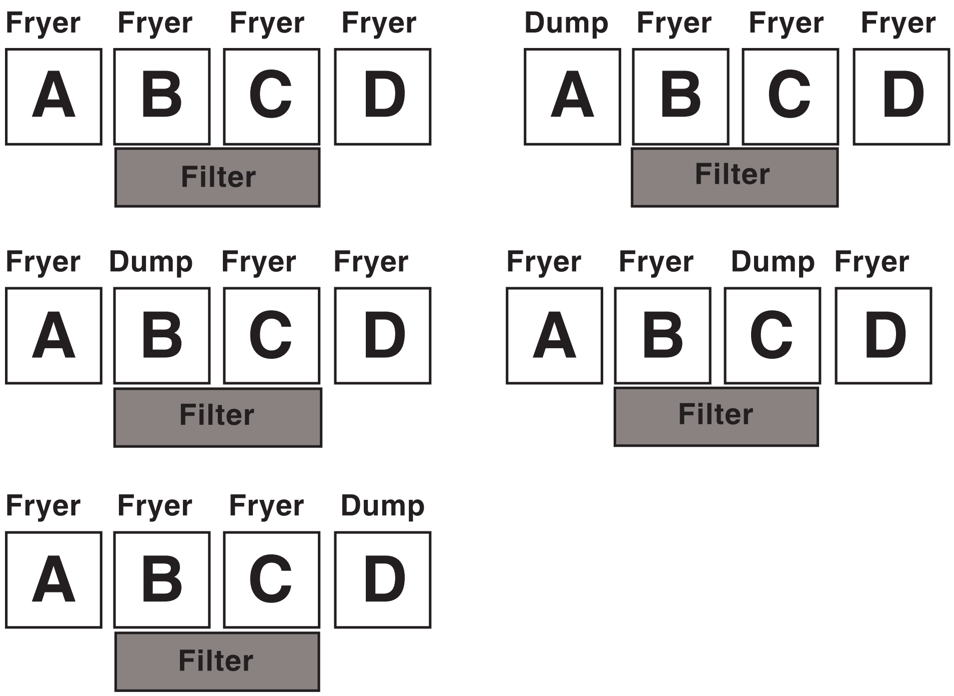
2 Cabinets in Battery



3 Cabinets in Battery



4 Cabinets in Battery (For Gas 35, 45 and Electric 50 Only)



The configurations shown are standard (default) locations. Any deviation will result in substantially increased lead times. Check with your sales manager or Vulcan customer service for acceptance of different configurations.

FIELD-INSTALLED ACCESSORIES

- Casters
- Twin Baskets
- Tri-Baskets (65 and 85 models only)
- Single Baskets
- Heat Lamp (RO only)
- Flex Hose 4' (1.2 m) (gas connection)
- Flex hose S/S 5' (1.5 m) (gas connection)
- Vat Cover
- Batter Tray
- Tank Skimmer
- Tank Scoop
- Splash Guard

FACTORY-INSTALLED OPTIONS

- Battery Non-Filter Ready Models Only
- Battery KleenScreen Filtration System

GR SERIES FRYMATE (Dump Station Batteries Only)

Model RO Frymate Dump Station can be configured in a battery with fryers 15 $^{1}/_{2}$" (39 cm) or 21" (53 cm) in width.

Frymate provides a final prep area where excess oil drains away and product is seasoned, packaged and kept ready for sale.

RO Series Frymate - Finish Options

RO15, RO21, RO21S	Front Door	Sides and Dummy Flue	Legs
Standard	Stainless Steel	Stainless Steel	Stainless Steel Legs
Optional	N/A	N/A	Casters
Model RO15 is for use with all 35 and 45 Series Fryers. Model RO21 is for use with all 65 Series Fryers. Model RO21S is for use with all 85 Series Fryers.			

RO Series Frymate - Features

Sizes	Heat Lamp	Tops	
		Drain	Pan Perforated
35 & 45	Opt.	Std.	Opt.
65 & 85	Opt.	Std.	N/A

INSTALLATION

Before installing the fryer, verify that the type of gas (natural or propane) agrees with the specifications on the fryer data plate, which is located on the inside of the door panel. Ensure the fryer is configured for the proper elevation.

Record your fryer model, device and serial numbers for future reference in the space provided below. This information can be found on the fryer data plate.

Fryer Model No. ________________

Device ________________

Serial No. ________________

UNPACKING

This fryer was carefully inspected before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of the shipment.

Immediately after unpacking the fryer, check for possible shipping damage. If the fryer is damaged, save the packaging material and contact the carrier within 15 days of delivery.

Accessories packed in the fry tank include:

- Crumb Screen
- Basket Hanger
- Legs (4)
- Drain Pipe
- Twin Fry Baskets (2)

Do not use the door or its handle to lift the fryer.

LOCATION (All Models)

The equipment area must be kept free and clear of combustible substances. Minimum clearance from combustible construction is 6" (15 cm) from the sides and 6" (15 cm) from the back of the fryer. Minimum clearance from noncombustible construction is 0" from the sides and 0" from the back.

At least 16" (41 cm) of clearance must be between the fryer and any open-top flame units. Adequate clearances for servicing and proper operation must be allowed. The fryer may be installed on combustible floors.

Install the fryer in an area with sufficient air supply for combustion of the gas at the fryer burners. Provide adequate clearance for air openings into the combustion chamber. Do not obstruct the flow of combustion and ventilation air. Do not permit fans to blow directly on the fryer. Avoid wall-type fans, which create cross-currents within a room. Avoid open windows next to the sides or back.

INSTALLATION CODES AND STANDARDS

The fryer must be installed in accordance with:

In the United States of America:

1. State and local codes, or in the absence of local codes, with:
2. National Fuel Gas Code, ANSI-Z223.1 (latest edition), available from The American Gas Association, Inc., 1515 Wilson Blvd., Arlington, VA 22209.
3. National Electrical Code ANSI/NFPA70 (latest edition) (if applicable).

In Canada:

1. Local codes.
2. CSA Standard C22.2 No. 3 Electrical Features of Fuel Burning Equipment.
3. CAN/CGA-B149.1 National Fuel Gas Code (latest edition), available from The Canadian Gas Association, 178 Rexdale Blvd., Etobicoke, Ontario, Canada M9W 1R3.

In Australia:

Fryers must be installed in accordance to the Gas Installation Code AG601 (latest addition), Building Codes and any other relevant statuory authority having jurisdiction. Refer to data plate (attached to the inside door panel) for gas consumption, injector size and any other pertinent information about the device.

ASSEMBLY

When installed, the fryer must be restrained to prevent tipping to avoid the splashing of hot liquid. The means of restraint may be the manner of installation, such as connection to a battery of appliances or installing the fryer in an alcove, or by separate means, such as adequate ties.

Fryers Mounted on Legs (Non-Battery Fryers)

Fryers serviced from the rear must have a minimum clearance of 18" (46 cm) from the wall when mounted on legs.

1. Position fryer in an open space near the final installation area.
2. Tilt fryer on its side. Be careful not to scratch the finish.
3. Thread legs into mounting holes provided on bottom of fryer; then tighten.
4. Carefully raise fryer to its normal position.

Fryers Mounted on Casters

Separate instructions for installing casters to the fryer are included with the casters.

- For an appliance equipped with casters, instructions that (1) the installation shall be made with a connector that complies with the Standard for *Connectors for Movable Gas Appliances, ANSI Z21.69* or *Connectors for Moveable Gas Appliances, CAN/CGA-6.16*, and a quick-disconnect device that complies with the Standard for *Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21.41,* or *Quick Disconnect Devices for Use with Gas Fuel, CANI-6.9*, (2) adequate means must be provided to limit the movement of the appliance. In Australia, use only the caster supplied by the manufacturer for the fryer device. The fryer must be installed using a hose assembly restraining device to limit the movement of the appliance which is in accordance with AS1869.
- The fryer must be installed with a connector (not supplied by Vulcan) complying with the above code(s).
- The fryer must be installed with restraining means to guard against transmission of strain to the connector, as specified in the manufacturer's instructions (Fig. 2).
- The fryer must be installed with the casters provided.
- Turn the gas supply OFF before disconnecting the restraint.

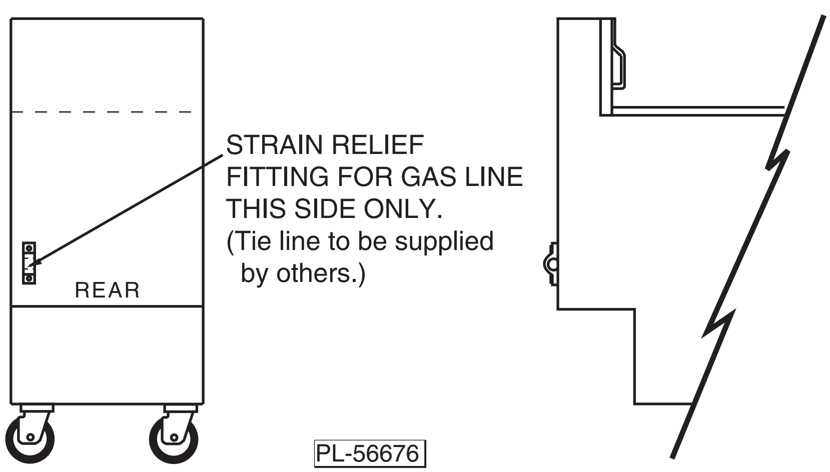


Fig. 2

GAS CONNECTIONS

CAUTION: All gas supply connections and any pipe joint compound must be resistant to the action of propane gases.

The gas inlet is located on the lower right rear of the fryer. Codes require that a gas shutoff valve be installed in the gas line ahead of the fryer.

The gas supply line must be at least the equivalent of $^{1}/_{2}$" (12.7 cm) iron pipe for single units and 1 $^{1}/_{4}$" (31.75 cm) for batteries; if using the optional quick-disconnect flex hose, $^{3}/_{4}$" (19.05 cm) iron pipe for single units, 1 $^{1}/_{4}$" (31.75 cm) iron pipe for batteries.

Make sure the pipes are clean and free of obstructions, dirt and piping compound. A battery requires one or two connections of appropriate size and type for the gas requirement.

WARNING: PRIOR TO LIGHTING, CHECK ALL JOINTS IN THE GAS SUPPLY LINE FOR LEAKS. USE SOAP AND WATER SOLUTION. DO NOT USE AN OPEN FLAME.

After piping has been checked for leaks, fully purge gas pipes to remove air.

GAS PRESSURES (All Models)

The gas pressure should be set at 4" W.C. (Water Column) (0.8 kPa) of pressure for natural gas and 10" W.C. (2.75 kPa) of pressure for propane gas. If incoming pressure exceeds $^{1}/_{2}$ psi (3.45 kPa), an additional pressure regulator must be installed.

TESTING THE GAS SUPPLY PIPING SYSTEM

When test pressures exceed $^{1}/_{2}$ psi (3.45 kPa), the fryer and its individual shutoff valve must be disconnected from the gas supply piping system.

When test pressures are $^{1}/_{2}$ psi (3.45 kPa) or less, the fryer must be isolated from the gas supply piping system by closing its individual shutoff valve.

LEVELING FRYER (All Models)

1. Place a level on top of the fryer after gas connections have been made.
2. Adjust the legs to ensure that the fryer is level front to back and side to side in the final installed position.

FLUE CONNECTIONS (All Models)

The fryer must be located under a hood with adequate connection to an exhaust duct. The hood must extend 6" (15 cm) beyond fryer sides.

Adequate ventilation must be provided and comply with *Vapor Removal from Cooking Equipment,* ANSI-NFPA Standard #96 (latest edition), available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

Clearance above the fryer should be adequate for combustion byproducts to be removed efficiently. An 18" (46 cm) minimum clearance should be maintained between the flue vent and the filters of the hood venting system. Never make flue connections directly to the fryer.

Do not obstruct the flow of the flue gases from the appliance. Proper air balance should be maintained in the room.

ELECTRICAL CONNECTIONS (Filter-Ready and KleenScreen Fryers Only)

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL CODES.

WARNING: APPLIANCES EQUIPPED WITH ELECTRICAL SUPPLY CORD(S) ARE PROVIDED WITH A THREE-PRONG GROUNDING PLUG, WHICH MUST BE CONNECTED TO A PROPERLY GROUNDED RECEPTACLE. IF THE RECEPTACLE IS NOT THE PROPER GROUNDING TYPE, CONTACT AN ELECTRICIAN. DO NOT REMOVE THE GROUNDING PRONG FROM THE PLUG.

Fryers are equipped with a 120-V, 60-Hz, 1-phase cord and plug.

Do not connect fryer to electrical supply until after gas connections have been made.

OPERATION

WARNING: HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING AND SERVICING THE FRYER.

WARNING: SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE FRYER WITHOUT DRAINING ALL FRYING COMPOUND FROM THE TANK.

BEFORE FIRST USE (All Models)

- Clean the protective metal oils from all surface parts and the tank interior using a noncorrosive, grease-dissolving commercial cleaner. Follow the cleaner manufacturer's directions.
- Rinse thoroughly and drain. (Open the front door to access the drain valve.)

  NOTE: On fryers equipped with the KleenScreen filtering system, **do not** drain cleaning solution into the pump or filter system. See the KleenScreen manual for information on cleaning.

- Wipe tank completely dry with a soft, clean cloth.
- Clean all fryer accessories.
- Rinse all accessories thoroughly after cleaning and wipe dry.

FILLING FRY TANK WITH SHORTENING (All Models)

Vulcan-Hart suggests that liquid shortening be used in all GR Series Fryers.

1. Fill the fryer tank.
2. Shortening level should be between the MIN and MAX lines in fry tank (Fig. 3). Shortening will expand when heated; do not fill the fry tank past the MAX line.
3. Add fresh shortening as needed.

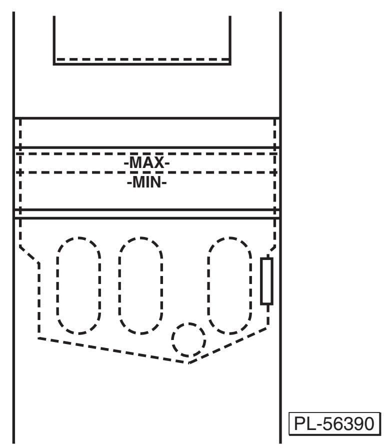


Fig. 3

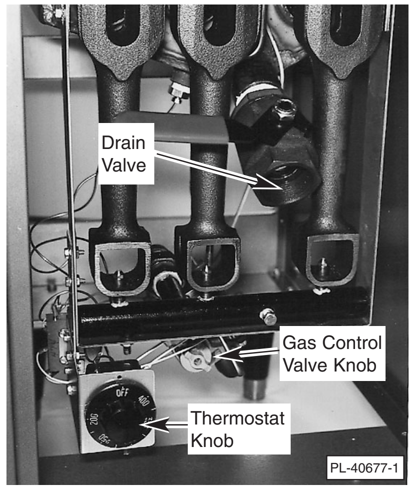
OVER TEMPERATURE DEVICE

If the shortening becomes overheated, a high-temperature shutoff device will turn the gas valve off and extinguish the pilot. DO NOT relight the pilot until the shortening temperature is below 300°F (149°C). If this situation persists, contact your local Vulcan-Hart authorized service office.

LIGHTING INSTRUCTIONS FOR MANUAL PILOT IGNITION (Non-Filter Ready)

CAUTION: Before turning the burners on, the fry tank must be filled with liquid or melted shortening.

1. Turn the thermostat OFF. The thermostat is located behind the door (Fig. 4).



Non-Filter Ready

Fig. 4

2. Push the gas control valve knob and turn to OFF (Fig. 5). Wait 5 minutes for unburned gas to vent.
3. Push and turn gas control valve on to the "I" in PILOT (Fig. 5).
4. While still holding the knob in, light the pilot with a lit taper. Continue to depress the knob until pilot remains lit when knob is released.

   If the pilot does not remain lit, repeat steps 2 through 4.
5. Depress and turn gas control knob to ON (Fig. 5).
6. If gas supply is interrupted, repeat steps 1 through 5.

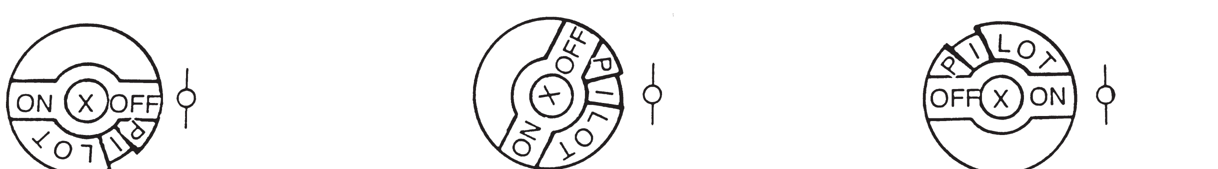


Fig. 5

TURNING THE FRYER ON (Non-Filter Ready)

To turn the fryer on, set the thermostat knob to the desired temperature. After the set temperature has been reached, the gas control shuts off the gas flow to the burners. The pilot remains lit. The burners will cycle on and off, maintaining the set temperature.

LIGHTING INSTRUCTIONS FOR MANUAL PILOT IGNITION (Filter Ready Models, Fig. 6)

CAUTION: Before turning the burners on, the fry tank must be filled with liquid or melted shortening.

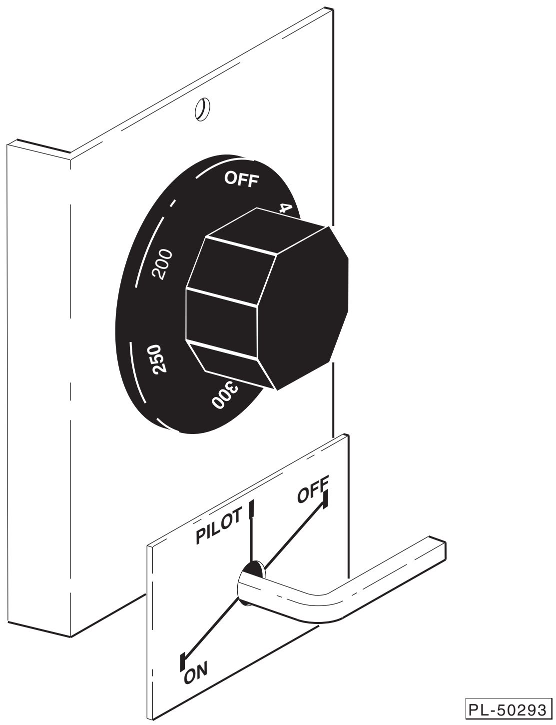


Fig. 6

1. Turn thermostat knob (located behind the door panel) to OFF.
2. Push gas valve extension arm in and turn arm to OFF. Wait 5 minutes for unburned gas to vent.
3. Push gas valve extension arm in and turn to PILOT.
4. While still depressing the arm, light the pilot with a lit taper. Continue with steps 2 through 4 until the pilot remains lit when the extension arm is released.
5. Push in and turn gas valve extension arm to ON.
6. Repeat steps 1 through 5 if gas supply is interrupted.

TURNING THE FRYER ON (Filter Ready Models)

To turn the fryer on, set the thermostat knob to the desired temperature.

When the set temperature is reached, the gas control shuts off gas flow into the burners. The pilot remains lit. The burners will cycle on and off to maintain set temperature.

TURNING THE FRYER OFF

1. Turn the thermostat OFF.
2. To keep the pilot lit:

   For non-filter ready models, turn the gas control valve knob to "I" in PILOT.

   For filter-ready models, turn the valve arm to PILOT.
3. To shut off all gas to the system, including the pilot, turn the gas control valve knob to OFF.

EXTENDED SHUTDOWN

1. Turn the main gas shutoff valve off.
2. Turn the thermostat knob to OFF.
3. Turn the gas control valve knob to OFF.

FRYING FOODS (All Models)

- Heat shortening to set temperature.
- Fry pieces of product that are about the same size together.
- Drain or wipe dry raw or wet foods to minimize splatter when lowering into the hot shortening.
- Keep shortening between the MIN and MAX lines. Shortening will expand when heated; do not fill the fry tank past the MAX line.
- Add fresh shortening as needed.

Fry Basket Guidelines (All Models)

- Shake the basket gently to avoid splattering the shortening.
- Do not overfill baskets. (See Recommended Basket Capacities below.)
- Hang baskets on rear basket hangers when frying is complete.
- To help reduce batter buildup, dip the basket into shortening before loading.

Recommended Basket Capacities (All Models)

Sizes	Total Lbs. of Product (1 Basket)	Total Lbs. of Product (2 Baskets)	Total Lbs. of Product (3 Baskets)
35	1 $^1/_2$ (0.7 kg)	3 (1.4 kg)	N/A
45	2 $^1/_2$ (1.1 kg)	5 (2.3 kg)	N/A
65	3 (1.4 kg)	6 (2.7 kg)	9 (4.1 kg)
85	3 $^1/_2$ (1.6 kg)	7 (3.2 kg)	10 $^1/_2$ (4.8 kg)

SHORTENING LIFE (All Models)

Shortening life can be extended by following these guidelines:

- Do not salt foods over the fryer.
- Use good-quality shortening.
- Filter shortening daily (at a minimum).
- Replace shortening if it becomes poorly flavored.
- Keep equipment and surroundings clean.
- Set thermostats correctly.
- Remove excess moisture and particles from food products before placing in fryer.

DAILY FILTERING

WARNING: HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING AND SERVICING THE FRYER.

Filtering Guidelines (All Models)

- A cold fryer will not drain properly. Always filter shortening in a liquid state. The shortening under the cold zone area will remain hard, even if the heat is on for a few minutes. If necessary, use the clean-out rod to carefully stir the hard shortening to an area above the cold zone where it will melt (Fig. 7).
- Filter shortening at least once a day.

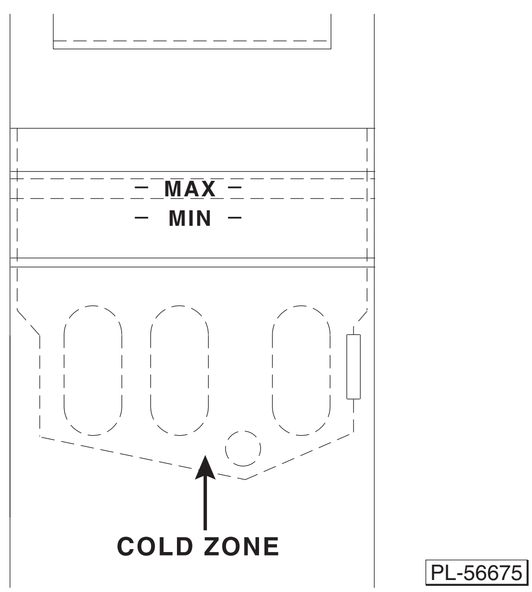


Fig. 7

Filter-Ready Models (Using Mobile Filter MF50 or MF85 Only)

For filtering instructions of the filter-ready fryers, refer to the Installation and Operation Manual. This manual is supplied with each mobile filter system. Check tank vessel or accessory shipment box for manual. If manual is not found, contact your local Vulcan-Hart office to obtain the manual before operating the filter system.

Make sure you use the mobile filter with the correct-size tank to hold the quantity of shortening to be filtered.

Fryer Model	Use Mobile Filter
35	MF50
45	MF50
65	MF85
85	MF85

Filtering Procedures (Non-Filter-Ready Fryers)

1. Turn fryer off.
2. Slowly remove basket(s).
3. Open fryer door and attach the drain pipe to the drain valve.
4. Select a container that will hold all the liquefied shortening and place it below the drain pipe.
5. If using a filter bag, tie it securely to the drain pipe. If a different filter medium is used, place it in the container.
6. Open drain valve carefully so the oil stream is directed through the filter. See Filtering Guidelines on page 18 for draining tips.
7. Flush out scraps and sediment in the fry tank with a small amount of warm shortening.
8. Drain the tank thoroughly and wipe clean.
9. Should it be necessary to clean the tank more thoroughly, see Cleaning on page 20.
10. Close the drain valve.
11. Pour the filtered shortening back into the fry tank.
12. Shortening level should be between the MIN and MAX lines.

Battery Interplumbing (KleenScreen Interplumbed Models Only)

A battery of fryers equipped with optional interplumbing connects the fry tanks to a common drain. Each tank has an individual drain valve. Only one tank can be filtered at a time. Instructions for the KleenScreen filtering system are covered in a separate manual. Follow the instructions accordingly.

CLEANING

WARNING: HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING AND SERVICING THE FRYER.

Daily

Clean your fryer regularly with a damp cloth and polish with a soft dry cloth. If regular cleaning is neglected, grease will be burned on and discolorations may form.

Fingerprints are sometimes a problem on highly polished surfaces of stainless steel. They can be minimized by applying a cleaner that will leave a thin oily or waxy film.

- Clean all exterior surfaces of your fryer at least once daily.
- Use a damp cloth with warm water and a mild soap or detergent.
- Rinse thoroughly; then polish with a soft, dry cloth.
- Keep the fryer exterior clean and free of accumulated grease to prevent stubborn stains from forming. If regular cleaning is neglected, grease will be burned on and discolorations may form.
- Remove discolorations by washing with any detergent or soap and water.
- Use a self-soaping, nonmetallic scouring pad for particularly stubborn discolorations.
- Always rub with the grain of the stainless steel.
- Do not use a scouring pad or harsh cleaners.

MAINTENANCE

WARNING: HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING AND SERVICING THE FRYER.

WARNING: SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE FRYER WITHOUT DRAINING ALL FRYING COMPOUND FROM THE TANK.

Fryers should be kept on a regular preventive maintenance schedule. Contact your local Vulcan-Hart Service office for details.

VENT

When the fryer is cool, inspect annually. Check the flue and clear any obstructions.

SERVICE

IN THE US AND CANADA:
Contact your local Vulcan-Hart Service office or address on the front of this manual.

IN AUSTRALIA:
Contact Hobart Food Equipment PTY. LTD., 16 Hilly Street Morlake, N.S.W. 2137 Australia; P.O. Box 100, Concord N.S.W. 2137; Telephone: (02) 9736 1200; Fax: (02) 9736 1555; www.hobartfood.com.au